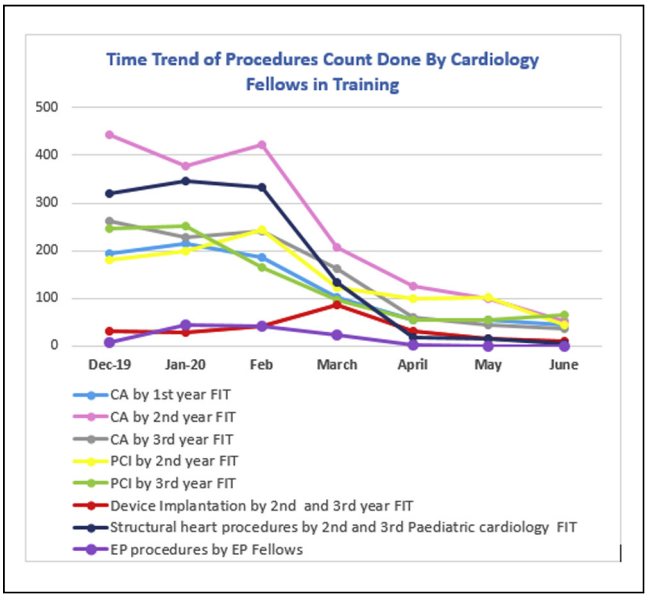
Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.



CONCLUSION There is remarkable disruption in cardiology training caused by COVID-19; every effort should be taken by decision-makers to prepare a well-equipped workforce nucleus to counteract this pandemic and improve cardiovascular care.

CATEGORIES OTHER: COVID-19

TCT CONNECT-225

Understanding Trends in Medicare Reimbursement for Cardiovascular Procedures

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BACKGROUND Cardiovascular (CV) procedures are a large driver of revenue for hospitals and CV practices. Hence, understanding trends in reimbursement is critical to their financial sustainability. The purpose of this study is to characterize trends in reimbursement for major commonly performed CV procedures.

METHODS The physician fee schedule look-up tool provided by the Centers for Medicare & Medicaid Services was used to obtain reimbursement data on many CV procedures (see Table). Current procedural terminology codes were used to identify each of these procedures. Values were adjusted for inflation rate using the consumer price index relative to 2020. The relative change and linear trends were analyzed for each of the procedures and categories.

RESULTS When adjusting for inflation, reimbursement for all procedures has decreased since the procedures' initial evaluation. Percutaneous aortic valve replacement and paravalvular leak repair had the largest yearly relative change of -2.01% and -3.31%, respectively, whereas intra-aortic balloon placement and percutaneous septal defect repair (atrial and ventricular) had the highest overall relative change since their initial evaluation (-25.56% and ≈-24%, respectively). After adjusting for inflation, the largest significant change in reimbursement was seen in percutaneous aortic valve replacement (-$28.95, R2 = 0.619, p = 0.02), percutaneous mitral valve replacement (-$27.92, R2 = 0.937, p = 0.002), and left atrial appendage occlusion (-$16.58, R2 = 0.976, p = 0.012).

	Overall Change	Yearly Change	Linear Regression	p Value
AVR	-16.09%	-2.01%	-$28.95	0.02
MVR	-11.11%	-1.85%	-$27.92	0.002
Paravalvular	-12.53%	-3.13%	-$37.51	0.15
LAAO	-5.41%	-1.35%	-$16.16	0.012
ASD	-24.56%	-1.36%	-$20.35	0
VSD	-23.92%	-1.29%	-$24.32	0
Septal Ablation	-8.49%	-1.21%	-$12.84	0.001
PCI	-7.61%	-0.95%	-$9.37	0.006

CONCLUSION Reimbursement for all major CV procedures has declined since their initial evaluation after adjustments were made for inflation. Recognition of these trends is important for health care providers and institutions to ensure the financial stability of their models of care.

CATEGORIES OTHER: Quality, Guidelines, Appropriateness Criteria, Cost-Effectiveness, and Public Health Issues

TCT CONNECT-226

In-Hospital Outcomes of CABG Candidates Undergoing PCI During the ICU Restricted COVID-19 Pandemic: The Multi-Center Prospective UK-REVASC Registry

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BACKGROUND The coronavirus disease-2019 pandemic has restricted availability of intensive care unit resources. Symptomatic patients with coronary artery disease considered surgical candidates have therefore needed revascularization with percutaneous coronary intervention (PCI). We describe demographics/in-hospital clinical outcomes of this novel cohort.

METHODS From March 1, 2020, to May 31, 2020, anonymized data of 171 patients in 38 U.K. centers were enrolled in a prospective registry. All were considered surgical candidates.

RESULTS Tables 1-3 show demographics, procedural characteristics, and outcomes. A comparison with routine PCI (British Cardiovascular Intervention Society data) and U.K. coronary bypass surgical data are listed if available and appropriate. There was significantly more prior myocardial infarction, PCI, and coronary artery bypass graft in the routine PCI database than in ReVasc Registry patients, suggesting more acute presentation in latter group. However, these were complex patients — mean SYNTAX score of 27.8 (range 9 to 65); and >20

times the number of LMS plus multivessel disease compared to the routine PCI group, with high use of adjunctive imaging. Radial use was high at 94.1%. PCI success was 97.0%. Complete revascularization was 52% and residual SYNTAX score 1.42 (0 to 20). The 2 deaths were acute, and mortality rate comparable to published surgical data. A 50% reduction in in-patient stay was observed.

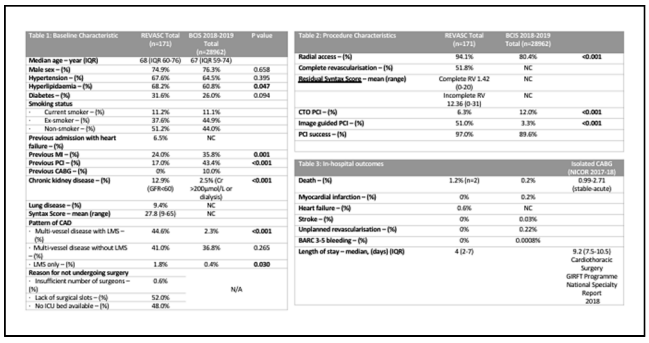

Table 1: Baseline Characteristic	REVASC Total (n=171)	BCIS 2018-2019 Total (n=28962)	P value
Median age – year (IQR)	68 (IQR 60-76)	67 (IQR 59-74)	
Male sex – (%)	74.9%	76.3%	0.658
Hypertension – (%)	67.6%	64.5%	0.395
Hyperlipidaemia – (%)	68.2%	60.8%	0.047
Diabetes – (%)	31.6%	26.0%	0.094
Smoking status			
· Current smoker – (%)	11.2%	11.1%	
· Ex-smoker – (%)	37.6%	44.9%	
· Non-smoker – (%)	51.2%	44.0%	
Previous admission with heart failure – (%)	6.5%	NC	
Previous MI – (%)	24.0%	35.8%	0.001
Previous PCI – (%)	17.0%	43.4%	<0.001
Previous CABG – (%)	0%	10.0%	
Chronic kidney disease – (%)	12.9% (GFR<60)	2.5% (Cr >200µmol/L or dialysis)	<0.001
Lung disease – (%)	9.4%	NC	
Syntax Score – mean (range)	27.8 (9-65)	NC	
Pattern of CAD			
· Multi-vessel disease with LMS – (%)	44.6%	2.3%	<0.001
· Multi-vessel disease without LMS – (%)	41.0%	36.8%	0.265
· LMS only – (%)	1.8%	0.4%	0.030
Reason for not undergoing surgery			
· Insufficient number of surgeons – (%)	0.6%	N/A	
· Lack of surgical slots – (%)	52.0%		
· No ICU bed available – (%)	48.0%		

Table 2: Procedure Characteristics	REVASC Total (n=171)	BCIS 2018-2019 Total (n=28962)	
Radial access – (%)	94.1%	80.4%	<0.001
Complete revascularisation – (%)	51.8%	NC	
Residual Syntax Score – mean (range)	Complete RV 1.42 (0-20) Incomplete RV 12.36 (0-31)	NC	
CTO PCI – (%)	6.3%	12.0%	<0.001
Image guided PCI – (%)	51.0%	3.3%	<0.001
PCI success – (%)	97.0%	89.6%	

Table 3: In-hospital outcomes			Isolated CABG (NICOR 2017-18)
Death – (%)	1.2% (n=2)	0.2%	0.99-2.71 (stable-acute)
Myocardial infarction – (%)	0%	0.2%	
Heart failure – (%)	0.6%	NC	
Stroke – (%)	0%	0.03%	
Unplanned revascularisation – (%)	0%	0.22%	
BARC 3-5 bleeding – (%)	0%	0.0008%	
Length of stay – median, (days) (IQR)	4 (2-7)		9.2 (7.5-10.5) Cardiothoracic Surgery GIRFT Programme National Specialty Report 2018

CONCLUSION In this multicenter U.K. registry, in-hospital outcomes with PCI for patients with complex coronary disease, normally treated with coronary artery bypass graft, compared well with surgical data suggesting the role of PCI could be extended. Future long-term follow-up is planned.

CATEGORIES CORONARY: Complex and Higher Risk Procedures for Indicated Patients (CHIP)

TCT CONNECT-227

The Role of Neighborhood Disadvantage in Predicting Mortality in Patients After Transcatheter Aortic Valve Replacement

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BACKGROUND The neighborhoods patients live in have a powerful impact on health outcomes. Prior investigations into the role of social disparities in transcatheter aortic valve replacement (TAVR) have focused on racial disparities and access to the procedure. We sought to investigate the role of neighborhood disadvantage on mortality post-TAVR.

METHODS Patients who underwent TAVR at Kaiser Permanente Los Angeles Medical Center between June 2011 and March 2019 were evaluated. Neighborhood disadvantage was defined using the Area Deprivation Index, an established and validated index that considers income, employment, education, and housing quality. Cutoffs used: state decile >6; national percentile >25%. Cox proportional hazards regression analysis was used to assess outcomes.

RESULTS A total of 668 patients (average age 82.1 ± 7.5 years, 49% female) were included. Of these, 215 (32.2%) were from disadvantaged neighborhoods based on state decile and 167 (25%) based on national percentile. At a median follow-up of 18.8 months (interquartile range: 8.7 to 36.5 months), after adjusting for age, sex, race, body mass index, diabetes, congestive heart failure, chronic obstructive pulmonary disease, peripheral vascular disease, atrial fibrillation, and creatinine, neighborhood disadvantage was independently associated with increased all-cause mortality (state decile hazard ratio [HR]: 1.68; 95% confidence interval [CI]: 1.21 to 2.33; $p = 0.002$; national percentile HR: 1.92; 95% CI: 1.36 to 2.70: $p < 0.001$). Compared to a propensity-score matched cohort, neighborhood disadvantage remained associated with increased mortality (state decile HR: 1.85; 95% CI: 1.24 to 2.76; $p = 0.002$; national percentile HR: 1.72; 95% CI: 1.12 to 2.63; $p = 0.013$). There were no differences in pacemaker rate, stroke, hospitalization for heart failure, myocardial infarction, or bleeding between groups.

CONCLUSION Living in a disadvantaged neighborhood was independently associated with increased mortality after TAVR. Further investigations into the role of neighborhood disadvantage are needed to address disparities and improve patient outcomes post-TAVR.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic